

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of the claims in the application:

**Listing of Claims:**

1 – 72 (Cancelled)

73. (Currently Amended) A structure formed on a substrate comprising:

~~a material~~ ~~an insulating~~ layer formed on ~~an existing atomic layer deposition layer~~ ~~the~~ substrate in which the ~~insulating~~ material layer is pretreated by introducing a radical specie including any combination of O<sub>2</sub>, H<sub>2</sub>, H<sub>2</sub>O, NH<sub>3</sub>, NF<sub>3</sub>, N<sub>2</sub>, C<sub>1</sub> and F to increase AH<sub>x</sub> termination sites on the surface of the ~~insulating~~ material layer, where x is an integer and A is a non-metal capable of bonding with hydrogen H; and

a film layer formed above said ~~insulating~~ material layer by repeated introduction of a first precursor followed by a second precursor to deposit said film layer by atomic layer deposition, the first precursor to deposit a first reactive specie on the surface of the ~~insulating~~ material layer, the surface when pretreated being more receptive to have additional bonding with the first reactive specie, due to the increase of AH<sub>x</sub> termination sites on the surface and the second precursor to deposit a second reactive specie to react with the deposited first reactive specie to form said film layer.

74. (Currently Amended) A method to perform atomic layer deposition comprising:

pretreating a surface of a substrate or a material layer formed on the substrate by introducing a radical specie including any combination of O<sub>2</sub>, H<sub>2</sub>, H<sub>2</sub>O, NH<sub>2</sub>, NF<sub>3</sub>, N<sub>2</sub>, C<sub>1</sub> and F

to increase AH<sub>x</sub> termination sites on the surface, where x is an integer and A is a non-metal capable of bonding with hydrogen H, said pretreating further including introducing the radical specie by a plasma;

introducing a first precursor to deposit a first reactive specie on the surface, the surface when preteated pretreated being more receptive to have additional bonding with the first reactive specie, due to the increase of AH<sub>x</sub> termination sites on the surface; and

introducing a second precursor, after the bonding of the first reactive specie, to deposit a second reactive specie to react with the deposit first reactive specie to form a film layer,

wherein Al<sub>2</sub>O<sub>3</sub> is deposited on TiXN, wherein X may be Al, Si or W by atomic layer deposition in which said pretreating includes introducing NH<sub>3</sub>/H<sub>2</sub>/ N<sub>2</sub> plasma to form NH<sub>x</sub> as the termination sites on Al<sub>2</sub>O<sub>3</sub>.

75. (Currently Amended) A method to perform atomic layer deposition comprising:

pretreating a surface of a substrate or a material layer formed on the substrate by introducing a radical specie including any combination of O<sub>2</sub>, H<sub>2</sub>, H<sub>2</sub>O, NH<sub>2</sub>, NF<sub>3</sub>, N<sub>2</sub>, C<sub>1</sub> and F to increase AH<sub>x</sub> termination sites on the surface, where x is an integer and A is a non-metal capable of bonding with hydrogen H, said pretreating further including introducing the radical specie by a plasma;

introducing a first precursor to deposit a first reactive specie on the surface, the surface when preteated pretreated being more receptive to have additional bonding with the first reactive specie, due to the increase of AH<sub>x</sub> termination sites on the surface; and

introducing a second precursor, after the bonding of the first reactive specie, to deposit a second reactive specie to react with the deposit first reactive specie to form a film layer,

wherein HfO<sub>2</sub>, ZrO<sub>2</sub> or La<sub>2</sub>O<sub>3</sub> is deposited on Al<sub>2</sub>O<sub>3</sub> by atomic layer deposition in which said pretreating includes introducing O<sub>2</sub>/H<sub>2</sub>/H<sub>2</sub>O plasma to form NH<sub>x</sub> as the termination sites on TiN.

If there are any additional fees due in connection with this communication, please charge our deposit account no. 02-2666.

Respectfully submitted,

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Dated: 11-30, 2004

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